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## COMMON USERS GROUP PROGRAM REVIEW AND EVALUATION (fill out in typewriter, ink or pencil)

rogram No Date			
Program Name:			
1. Does the abstract adequately describe what the program is and what it does?  Comment		Yes	No
2. Does the program do what the abstract says?  Comment		Yes	_ No
3. Is the description clear, understandable, and adequate?  Comment		Yes	_ No
4. Are the Operating Instructions understandable and in sufficient detail?  Comment		Yes	_ No
Are the Sense Switch options adequately described (if applicable)? Are the mnemonic labels identified or sufficiently understandable? Comment		Yes Yes	_ No _ No
5. Does the source program compile satisfactorily (if applicable)?  Comment		Yes	_ No
6. Does the object program run satisfactorily?  Comment		Yes	No
7. Number of test cases run Are any restrictions as to data, size, range, etc. covered adequately in description?  Comment		Yes	_ No
8. Does the Program meet the minimal standards of COMMON?  Comment		Yes	_ No
9. Were all necessary parts of the program received?  Comment		Yes	No.
10. Please list on the back any suggestions to improve the usefulness of the program. These will be passed onto the author for his consideration.			
Please return to:	Your Name		
Mr. Richard L. Pratt Data Corporation 7500 Old Xenia Pike	Address		
Dayton, Ohio 45432	Users Group Code		

THIS REVIEW FORM IS PART OF THE COMMON ORGANIZATION'S PROGRAM REVIEW AND EVALUATION PROCEDURE. NONMEMBERS ARE CORDIALLY INVITED TO PARTICIPATE IN THIS EVALUATION.

#### FIVE-CARD PRINTER CORE DUMP PROGRAMS

James S. Taylor Data Corporation 7500 Old Xenia Pike Dayton, Ohio 45432 513-426-3111 User No. 3121

#### 4 April 1966

Modifications or revisions to this program, as they occur, will be announced in the appropriate Catalog of Programs for IBM Data Processing Systems. When such an announcement occurs, users should order a complete new program from the Program Information Department.

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#### 1620 USERS GROUP LIBRARY

#### PROGRAM ABSTRACT

1. Title:

Five-Card Printer Core Dump Programs

2. Author; Organization:

James S. Taylor Data Corporation 7500 Old Xenia Pike Dayton, Ohio 45432

Date:

4 April 1966

Users Group Membership Code:

3121

3. Direct Inquiries to:

James S. Taylor Data Corporation 7500 Old Xenia Pike Dayton, Ohio 45432

Phone:

513-426-3111

4. Description/Purpose:

These programs dump the memory of any size model I or II 1620 on the 1443 printer. Three initial unformatted lines display 120 positions beginning at 00080, 00200 and 00300. Subsequent lines are formatted as follows: Starting address, asterisk, ten groups of ten digits each followed by an asterisk, and asterisks to fill the rest of a 120 character line. On machines having 144 print positions positions 121-144 always display the same data. Only positions 00000-00079 are destroyed by the program. The program stops on a MAR check when the end of core is

reached.

5. Method:

Not applicable

6. Restriction/Range:

Not applicable

7. Specifications:

a. Storage used by program:

0 - 399

b. Equipment required by

program:

Card

1443 Printer

Can program be used on

lesser machine?

No

c. Programmed in:

Machine Language

d. Type of Program:

8. Additional Remarks:

Mainline, Complete

The program is given in two forms. One is for machine without indirect addressing or for Model II 1620's when it is not known whether IA is on or off. The other requires IA. Index registers do not affect the program. The use of IA allows the flag on the first digit of the output line to be cleared, providing a more easily interpreted output.

#### NOTICES

- Modifications or revisions to this program, as they occur, will be announced in the appropriate Catalog of Programs for IBM Data Processing Systems. When such an announcement occurs, users should order a complete new program from the Program Information Department.
- 2. This program has been tested by the author on three different 1620 systems, and has been found to operate properly, without interference with or from 1710 or model II special features. However, neither the author nor Data Corporation will assume any liability whatever with respect to the operation of this program on any 1620 or 1710 computer, nor for any time or materials lost due to failure of the program to operate as described.

# TECHNOLOGY.

#### WRITEUP

The program as delivered consists of four decks. Two are listing decks and two are object decks. The listings describe the logic and instruction-by-instruction operation of the program. Included in the listing decks at appropriate places are the five cards which actually constitute the dump program, so that an object program can be prepared directly from the listings, if desired.

The program operates by moving digits one at a time from the location to be dumped to the buffer area 00000-00119. Although the lengths of all fields used as addresses must be made 5 digits to avoid trouble on Model II 1620's when index registers are on, the program will keep up with a Model II printer on a Model I computer.

The dump destroys locations 00000 through 00079 when it is loaded. Any data in these locations is irretrievably lost unless it is dumped at the typewriter beforehand. To restart a job after a dump it is only necessary to restore 00000 to 00079, load in the multiplication tables, and enter a branch from the console.

To operate the program, clear the reader, press reset (or instant stop and reset, if necessary), put the five-card dump routine in the reader, and press load. The program takes a couple of seconds to load, so hold the reader start button down until all five cards have been read. If it is desired to dump 00012-00079 before loading the dump program, press insert, type 35 00012 00100, and R-S or press release and start. After the first line is typed, press release and reset and load the dump program.

The output consists of three lines of dumped output, followed by a double spaced, formatted listing of the contents of the memory. The first digit of the first line is from core location 00080. The second line begins at 00200, and the third at 00300. Subsequent lines are labeled with the appropriate starting address. The program stops with a MAR check when it addresses the first digit beyond the end of core. On 100K machines it will loop and begin dumping from 00000, but will not clobber itself.

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#### DECK LABELING KEY

Deck No. 1 consists of 61 cards as listed on page 6. Deck No. 2 is a five-card dump program for machines without indirect addressing. The cards of this deck are included and described in deck No. 1, and appear within the listing on page 6. Similarly, deck No. 3 is a listing deck and deck No. 4 is an object deck for the dump program for machines with indirect addressing. These are listed in a self-explanatory form on page 8.

```
MACHINE CODE LISTING OF PRINTER CORE
                                                                                                        DUMP PROGRAM FOR MACHINES WITHOUT INDIRECT ADDRESSING. THIS INCLUDES MODEL 2 1620, BECAUSE YOU NEVER CAN TELL WHETHER IA WILL BE ON OR OFF WHEN THE TIME COMES TO DUMP.
                                                                                          CARD 1.
   34000000097135000800090036000800050035002000090036001600050035003000090036002400
                                                                                         START WITH A CLEAN PAGE.
INITIAL PRINT AND READ SECTION.
THIS SECTION DUMPS CORE LOCATIONS
00080 THRU 00399 AND REPLACES THEM
WITH THE FORMATTED DUMP ROUTINE
   00000
00012
                                       00000
00080
00080
                                                             00971
00900
                          36
35
36
35
   00024
                                                            00500
                                       00200
00160
00300
                                                            00900
00500
00900
   00036
                                                                                                         AND THE ADDITION TABLE.
   00072
                            36
                                       00240
                                                             00500
                                                                                          CARD 2 STARTS AT LOCATION 00080.
   0500340000009513600320005001500005****2600004001551600150~000625
                                                                                                                                                                                                                        -04001100
                                       00000
00320
                           34
36
                                                             00951
00500
   00096
                                                                                          END OF INITIAL SECTION. THIS IS NOW THE
                                                                                         DUMP BUFFER AREA.

MOVE A STAR TO 00005 TO SET OFF THE ADDRESS
MOVE ADDRESS OF THE DUMPED DATA TO ZERO.

RESET THE DUMP BUFFER POINTER.

MOVE ONE DIGIT INTO THE BUFFER.

INCREMENT THE BUFFER POINTER.
   00108
00120
00132
                          15
26
16
                                       00005
                                                           00155
-0006
                                      00004
                          25
11
                                                            -0400
000-1
   00156
                                      00150
                                                                                          CARD 3 STARTS AT LOCATION 00160
   150000-11100155000-14300144001552600210001502500000001191100150000-1430014400154
                                                                                          INCREMENT THE DUMPED CORE POINTER.
TEST FOR MULTIPLES OF TEN DIGITS.
SET OFF EACH TEN DIGITS WITH A STAR
AND INCREMENT THE BUFFER POINTER
   00168
                          11
                                      00155
                                                           000-1
   00180
00192
00204
                                                           00155
00150
00119
                                      00144
00210
                           26
25
   00216
00228
                                      00150
00144
                           11
43
                                                            000-1
                                                            00154
                                                                                          TEST FOR MULTIPLES OF 100 DIGITS.
                                                                                          CARD 4.
   340000000962350000000900470012003400340000009714900120000000123456789123456789-
                                                                                         DUMP A LINE WITH DOUBLE SPACING
AFTER EACH HUNDRED DIGITS.
TEST FOR PAGE OVERFLOW.
RESTORE THE PAPER IF NECESSARY AND
GO BACK TO START ANOTHER LINE.
   00240
00252
                           34
35
                                       00000
                                                           00962
                                       00000
                                                            00900
                                                           03400
00971
00000
   00264
00276
                            47
34
49
                                      00120
00000
   00288
                                      00120
                                                                                                    ADD TABLES ARE PUNCHED INTO THE
REMAINDER OF THE FOURTH CARD AND
                                                                                                         THE FIFTH CARD FOR MODEL 1 1620S.
   23456789-J3456789-JK456789-JKL56789-JKLM6789-JKLMN789-JKLMN089-JKLMN0P9-JKLMN0PQ
                                                                                         THE PROGRAM TERMINATES WITH A MAR CHECK UPON REACHING THE END OF CORE STORAGE.
                                                                                                                                                                                   6
 -0500*2-2522-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2
-0600*2-2522-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-
-0700*4-2522-252*2-2522*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-252*2-25
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7

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MACHINE CODE LISTING OF PRINTER CORE DUMP PROGRAM FOR MACHINES WITH INDIRECT ADDRESSING. IT MAY BE ON A MODEL 2 1620 ONLY IF IT IS CERTAIN THAT IA IS ON. BE USED IF IT IS CARD 1. 3400000097135068800090036000800050035002000090036001600050035003000090036002400 00000 00000 00971 START WITH A CLEAN PAGE INITIAL PRINT AND READ SECTION.
THIS SECTION DUMPS CORE LOCATIONS
00080 THRU 00399 AND REPLACES THEM 00900 08000 08000 00012 00024 00036 35 00200 00900 00160 THE FORMATTED DUMP ROUTINE THE ADDITION TABLE. 00048 00072 36 00240 00500 CARD 2 STARTS AT LOCATION 00080. 05003400000009513600320005001500005\*\*\*\*\*2600004001551600150-000625 -04001100 00000 00084 END OF INITIAL SECTION. THIS IS NOW THE DUMP BUFFER AREA. 00096 36 00320 00500 MOVE A STAR TO 00005 TO SET OFF THE ADDRESS MOVE ADDRESS OF THE DUMPED DATA TO ZERO. RESET THE DUMP BUFFER POINTER. 00108 00005 \*\*\*\* 00120 26 00004 00155 -0006 16 MOVE ONE DIGIT INTO THE BUFFER. INCREMENT THE BUFFER POINTER. 25 11 -0400 000-1 00150 CARD 3 STARTS AT LOCATION 00160 150000-11100155000-1430014400155250015-001191100150000-143001440015433000000000 INCREMENT THE DUMPED CORE POINTER. 00168 00155 000-1 TEST FOR MULTIPLES OF TEN DIGITS.
SET OFF EACH TEN DIGITS WITH A STAR AND
INCREMENT THE BUFFER POINTER PAST IT.
TEST FOR MULTIPLES OF 100 DIGITS. 00144 00180 00155 25 11 00119 00192 00150 00204 000-1 00154 00216 00144 INDIRECT ADDRESSING AT 00192 PERMITS
CLEARING THE FLAG ON THE ADDRESS. 00000 00000 00228 CARD 4. 340000000962350000000900470012003400340000009714900120000000123456789123456789-DUMP A LINE WITH DOUBLE SPACING AFTER EACH HUNDRED DIGITS. TEST FOR PAGE OVERFLOW. RESTORE THE PAPER IF NECESSARY AND GO BACK TO START ANOTHER LINE. 00240 00000 00962 00000 00252 00900 00264 00120 03400 00276 00000 00000 THE ADD TABLES ARE PUNCHED INTO THE REMAINDER OF THE FOURTH CARD AND THE FIFTH CARD FOR MODEL 1 1620S. 23456789-J3456789-JK456789-JKL56789-JKLM6789-JKLMN789-JKLMN089-JKLMN0P9-JKLMN0PQ THE PROGRAM TERMINATES WITH A MAR CHECK UPON REACHING THE END OF CORE STORAGE. 8 00\*4704182014\*0021041680\*416M460420\*\*\*\*\*2600004001551600150-000625-0082-42701100150000-11100155000-143001440015526002100

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